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FWF Update Newsletter

Department of Forestry, Wildlife and Fisheries

May 2010

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A Summary of Changes to the American Tree Farm System

David Mercker, Extension Specialist, Forestry

The American Tree Farm System is the nation's oldest forest certification system. Nationally there are 92,000 private landowners enrolled in Tree Farm. Members are nominated into the program by qualified inspecting foresters. To be eligible, landowners must have an approved forest management plan and be practicing sustainable forestry. Tennessee has approximately 450 certified Tree Farms and over 100 inspecting foresters.

Wood products originating from Tree Farms now have international recognition by the PEFC (Program for the Endorsement of Forest Certification). With this, consumers are assured that sustainable forestry has been practiced. By no means does this imply other forestry practices are not sustainable. Rather with certification, the forestry practices have been "third-party" approved. Participation is voluntary.

The American Tree Farm System undergoes a review process every five years to re-evaluate their standards. The new standards went into effect January 2010. Some of the highlights/changes to the new standards include:

1. More emphasis is being placed on protecting special sites and high conservation forests.
2. Landowners are asked to monitor invasive species and pests that could interfere with the management objectives.
3. Threatened and endangered species are becoming more important; the management plan must document that an effort was made to inquire about species of concern, and if found, management should accommodate.
4. Landowners should manage the visual impacts of forest management activities to the extent they can.

During August of 2010, Tennessee's inspecting foresters will undergo updated training to remain certified. Although having a certified forest is not for all landowners, it remains a viable option for those with long-term sustainability goals and for those who wish to have access to emerging global certified wood markets.

Effects of Flooding on Trees

Wayne K. Clatterbuck, Professor, Forest Management and Silviculture

The excessive rainfall and flooding such as that which occurred in some parts of Tennessee at the beginning of May can affect tree health and be detrimental to trees. When major rivers such as the Cumberland River overflow, the backwater also causes the smaller tributaries to overflow. A few days of inundation during the dormant season, when leaves are not on the trees, has little effect on trees. However, flooding during the growing season, especially during and after leaf out, can be very harmful. Flooding results in poor soil aeration because the oxygen supply to flooded soil is severely limited and leaves are demanding resources from the roots to survive and grow. Oxygen deficiency is likely the most important factor inhibiting growth and promoting injury in flooded trees. Most trees will not tolerate the anaerobic (oxygen limited) conditions of standing or puddled water, but will tolerate the more aerobic (oxygen less limited) conditions of flowing water for a few days during the growing season. Water duration, water depth, frequency of flooding and seasonality are all factors that can affect tree health in flood prone areas.

Once trees are stressed by floods (symptoms can include leaf chlorosis, defoliation, reduced leaf size, sprouting and crown dieback), secondary organisms, particularly opportunistic fungi, insects and disease, can capitalize on the declined vigor of trees, invade the host and further weaken the tree. The symptoms may progress and could eventually lead to the death of the tree, especially if the tree is further influenced by environmental stresses such as droughts and high temperatures later in the summer. Generally though, flooding does not occur every year and the stress symptoms subside indicating the tree is on its way toward recovery. Most trees are fairly resilient to environmental stress when they are young and vigorous. Older mature and overmature trees with less vigor are more susceptible to environmental stresses.

Some tree species tolerate flooding more than others. The following list is a guide that was synthesized from the published literature categorizing flood tolerance for tree species. Regional differences and a wide variation of the individual species may exist between the tolerance categories. The list can be used in making species selection decisions for planting trees and managing forests in flood prone areas.

More tolerant to flooding: Boxelder; red and silver maple; water, willow, Nuttall, pin and overcup oaks; water hickory; pecan; sycamore; buttonbush; water tupelo; bald cypress; sweetgum; green ash; sugarberry; hackberry; persimmon; cottonwood; and willows

Intermediate tolerance to flooding: sugar maple; hawthorn; holly; elms; bur, swamp white, Shumard, cherrybark, and swamp chestnut oaks; blackgum; river birch; and honeylocust

Less tolerant or intolerant to flooding: redbud; dogwood; black walnut; black cherry; mulberry; shortleaf and loblolly pine; shagbark, mockernut and pignut hickories; sourwood; white, post, black, and northern red oaks; sassafras; and black locust.

Protecting Wood in Flooded Homes

Adam Taylor, Assistant Professor, Forest Products

The growth of mold within the walls of homes that have been flooded can be a concern for returning homeowners. While mold fungi are very unlikely to cause serious medical problems, major infestations can cause allergic reactions in sensitive individuals. More importantly, the wet conditions that promote mold growth also support decay fungi that can eventually cause structural damage. Moisture and fungal activity also make wood much more susceptible to wood destroying organisms such as beetles and termites. Thoroughly drying the wood in flooded homes is the key to stopping mold and preventing future mold or rot, and reducing the likelihood of wood destroying insects.

Fungi obtain their food from the materials on which they grow. However they also need water to live. Even in a dry house, the wooden components will contain some water (about 6-12% moisture content [MC] on average). However, to support the growth of mold fungi, the wood moisture content must be over 20%.

If a home has been flooded, initial steps include removing all water and wet debris (carpet, furniture, curtains, garbage, etc.). All sheet rock and insulation should be removed to a height at least three feet above the flooded area. Removal of these materials can stir up potentially harmful materials. Proper protective equipment should be worn, not only to avoid breathing mold spores but also for the dust and other potential irritants that may be in the environment.

The wall cavities and wall framing can be washed with soapy water. Bleach may seem like an obvious choice for such cleaning, but this is not recommended except when small areas are to be cleaned. Bleach (sodium hypochlorite) is not approved by the EPA for wood treatment. Bleach kills mold but it is corrosive and can damage electrical connections, metal fixtures and fittings and other household items. In addition, wood is porous and can absorb large amounts of bleach. This will leave a lingering smell inside the home.

If the structure can be thoroughly dried within a few days, this will prevent any significant fungal growth. However, if the wood and other components remain wet for a long time then attack by mold, other fungi and insects is likely. In this case you may wish to apply a product that will prevent such growth to the exposed framing and wall cavities. All such products must be specifically registered with the EPA to kill and prevent mold and should be applied according to label directions. Borate products supplemented with a mold-control agent are recommended because borates will control wood decay fungi as well as wood destroying insects such as termites. One example of such a product registered in the State of Tennessee is Bora-Care with Mold-Care. You may wish to contact a locally licensed and insured pest control operator (PCO) to assist with this treatment. A PCO will have training and certification approved by your state and will use EPA registered products.

The moisture content of wood in all walls, in subfloors and roofs needs to be checked before the insulation and wallboard are reinstalled. A lumber moisture meter can be used. The moisture content reading should be less than 20%. If the wood is above 20% MC, continue to dry using fans and ventilation, dehumidifiers or dry heat. When the wood is dry (below 20% MC), new insulation and wallboard can be installed. Do not paint structural wood during the renovation process, even with 'mold inhibiting' paint. It slows drying and is unnecessary.

There are companies that offer mold remediation services. If you have extensive flooding and mold damage, you may consider seeking their help. Mold remediation is the removal of moldy materials and drying of a structure. Only Indoor Air Quality Association members (<http://www.iaqa.org/>) with proper mold remediation certification should be hired.

Depending on the termite protection in place around the home, re-treatment may be needed after flooding. Wood treatments should be reapplied and soil treatments must be reapplied if there has been any erosion or other ground disturbance. Monitoring stations should be re-inspected. Professional PCOs are recommended for these services. For more information on this topic, consult the following websites: **CDC “Flood Safety Fact Sheet”** <http://gohsep.la.gov/factsheets/floodsaf.html>
EPA Fact Sheet “Flood Clean Up” http://epa.gov/iaq/flood/flood_booklet_en.pdf
American Red Cross “Repairing Your Flooded Home”
<http://www.redcross.org/www-files/Documents>

Hazardous Trees in Somebody Else’s Yard

Larry Tankersley, Extension Forester

We have had a couple of interesting calls here lately concerning hazardous trees. Hazardous trees are interesting in their own right, but these calls were about hazardous trees in a neighbor’s yard.

It is my understanding that we cannot force another landowner to remove a tree that we consider to be a hazard. We can however, encourage our neighbor that we consider the tree to be a hazard and that it is causing us significant anxiety.

In the cases that came in recently, the neighbor’s had talked and with less than charitable results. The neighbor owning the tree passed off the other neighbor in an uncaring manner and was definitely not planning to do anything about the tree, thus the call to Extension Forestry.

What can be done? I recommended that the concerned neighbor contact their insurance company and make them aware of the situation. Some insurance companies will send a registered letter to the tree owner letting them know that they consider the tree a hazard and that should there be damage or death resulting from the failure of said tree that a lawsuit would be forthcoming. This letter still cannot compel the tree owner to act but does begin to build the case that in the event of a future lawsuit that the tree owner has been placed on notice.

Accompanying this letter, may or should be, the opinion of an arborist certified by the International Society of Arboriculture (ISA). The arborist, of course, cannot do a thorough assessment of the tree without trespassing, but the note can lend credence to the notification by the concerned party that a knowledgeable arborist has looked at the tree and would serve as an expert witness should the need arise.

Another item that arose when discussing the situation with the Extension clients this week was the mental exhaustion that the folks were suffering from worrying about the tree in question. These folks apparently had their physician also write a letter on their behalf explaining the deterioration of their health as a result of worrying about their neighbor’s tree.

All this notification may seem like overkill, but according to UT Associate Professor of Ag. Economics, Chris Clark, who also holds a law degree, this level of notification will go a long way towards winning a lawsuit should one become necessary. Certainly the concerned party has built a compelling case should the tree cause damage or death. An “Act of God”, such as a tornado or other extreme event where other trees are also damaged, could hold your neighbor harmless. Any other tree failure would likely be seen by a judge or jury as negligence by the notified tree owner. Dr. Clark reminds us, that any liability case would involve varying “degrees of evidence” but the notification we have discussed would make a difference.

Hopefully tree owners will accept that they are responsible for their trees and any particular damage that might result should the tree break or otherwise fall over. Periodic inspections and attention to the general condition of their tree are warranted especially in crowded “neighborhoods”.

For more information, consult UT Extension publication “*Tree Owner’s Rights and Responsibilities*”

The Demand for Wood Residues and Small-Diameter Wood for Energy

Wayne K. Clatterbuck, Professor, Forest Management and Silviculture

The Biomass Crop Assistance Program (BCAP) that was authorized under the 2008 Farm Bill provides financial assistance for the growing, collection, harvest, storage and transportation of biomass for producing energy. Two types of assistance for forestry activities were authorized: (1) Up to 75 percent of the cost of establishing eligible woody and nonwoody perennial crops on nonindustrial private forestland, including site preparation and tree planting, plus annual payments for up to 15 years for the production of such crops, and (2) Matching payments for the collection, harvest, storage, and transportation of the biomass to an approved facility, for up to two years.

Calculations by Congress estimated that the cost of the program would be \$70 million per year. However, the program has proved to be so well-received that the Farm Services Agency (FSA) estimated that payments in 2010 would total \$435 million per year and increasing to more than \$800 million per year in 2011. Because of the escalating cost of the program, FSA has put a hold on the program to re-evaluate the payment rules, standards and procedures as well as to bring the budget into accordance with the wishes of Congress. To date, more than 400 facilities have enrolled and been accepted into BCAP. Public comment on BCAP is being collected through April 9, after which FSA will develop a final set of implementation standards.

The BCAP program has been immensely popular with forest industry that has been using residue wood for energy generation in their manufacturing plants for years. Some even bought and hauled residue wood from other facilities to fuel their energy needs. The industry capitalized on this cost-share opportunity quickly. The framers of the BCAP program probably did not realize that the forest industry was already using wood for fuel in their manufacturing plants. With the downturn of the economy and with less residue wood available with the reduced sawing/milling of logs, residue wood became a hot commodity with manufacturing plants procuring wood from more than 150 miles away to satisfy their energy needs. The dollar for dollar matching payment up to \$45 per bone dry ton was an incentive to loggers and haulers for transporting woody biomass for energy needs in a poor economy.

The program also has its critics. The higher value of residue wood for biomass energy has impacted several industries that use residue wood as part of their manufacturing resource. The cost of the raw material has increased substantially. Mill residues that could typically be used to manufacture particle-wood, fiberboard, cabinets, flooring, and other composite wood panel products are in short supply and costs more. Mulch and charcoal manufacturers have found increasing costs and lower supplies for their raw material supply. Again, much of this lower supply and availability of residue wood is based on the decline of the economy, reduced housing starts, and diminished milling capability.

One of the purposes of the federal program is to provide more green energy through biomass incentives and have less reliance fossil fuels. The question becomes whether the cost of energy wood begins to affect the price for traditional wood products. For example, if wood used for energy costs more than wood for other products, will that wood manufacturing capability be able to compete at higher prices or will that manufacturing be exported to other countries where the cost of wood or raw material is cheaper?

From a forest management standpoint, we have always desired a better market for small-diameter wood. With biomass markets, landowners may be able to practice more pro-active forest management and receive some competitive return on their investment that otherwise has not been available. Thus, there would be more incentive to manage woodlots in the short term, not only for short rotation products, but for long-term products resulting in intermediate incomes from small-diameter trees that currently are not present in many areas of Tennessee.

Stay tuned. The market for wood products is changing. Growing trees based on your desires for income, wildlife habitat, and recreation or a mixture of objectives will become more complicated with more demand for well-managed, green energy, wood-based products.

Streamside Management Zones (SMZs)

Wayne K. Clatterbuck, Professor, Forest Management and Silviculture

Streamside Management Zones may be the most critical Best Management Practice (BMP) during harvesting operations. SMZs are a vegetated zone that serves as a buffer between harvested areas and water bodies (streams, creeks, rivers, lakes, ponds) to trap sediment before it enters the water. SMZs provide other benefits. Trees and other vegetation in the SMZ provide shade to the waterway to prevent elevated stream temperature that affects aquatic organisms. These buffer strips also serve as travel corridors, food sources, and cover for wildlife.

When should SMZs be applied? SMZs should be applied adjacent to *perennial* or *intermittent* streams. These streams have a well-defined channel and support aquatic life. Although these streams flow during most times of the year, they may dry up during drought periods. SMZs should still be applied. *Ephemeral* streams, commonly referred to as drains, draws, or dry washes, typically do not have well-defined channels and flow only during short periods following rainfall events. Aquatic organisms are not present. SMZs are not required for ephemeral streams, but care must be taken to minimize disturbing soil in these concave depressions before they enter intermittent or perennial streams.

How wide should a SMZ be? There is no uniform formula to determine the width of the SMZ. The objective of the SMZ is to slow down water entering the SMZ and protect water quality. The reduced water velocity allows the SMZ to trap suspended sediment that might erode from disturbed areas and for the water to infiltrate into the soil before the water reaches the stream. The steeper the slope and the more erosive the soil, the wider the SMZ should be. The minimum width of a SMZ is 25 feet on each side, measured from the stream bank, not the centerline of the stream. Hay bales and silt fences can be used to ensure that sediment does not reach a stream if adequate SMZ width cannot be attained.

Can we cut trees in the SMZ? Yes, but extreme care must be observed. We prefer that SMZs be “no equipment zones” where timber must be pulled or winched from the zone. SMZ guidelines specify that no more than 50 percent of the tree cover can be harvested, leaving at least 50 percent to maintain the functionality of the buffer strip.

SMZs may be the most productive forestland because of the proximity to water. These areas should be managed for maximum benefit for water quality and the growth of trees. Too often, SMZs are high-graded with little potential for future value. In other areas, they are left alone, with little management becoming unhealthy and susceptible to insects and disease.

Can we have roads in the SMZ? Preferably not, but existing roads do occur. Maintain existing roads within SMZs with adequate water control structures --- dips, wing ditches and water bars. Do not divert water directly into the stream; divert water in the SMZ so sediments may settle. Minimize stream crossings and locate new roads, log decks, staging areas and skid trails outside the SMZ. Remember, SMZs should be treated as no equipment zones to minimize site disturbance.

Wildlife Management Calendar for June

Craig Harper, Professor, Wildlife Management

Wildlife Notes

Wild plums ripen through June.

Peak hatch for wild turkey nests occurs early in June. **DO NOT MOW** old fields!

Most white-tailed deer fawns born in June. Do not pick them up, thinking they have been abandoned.

Bullfrogs breeding peaks in June and July.

Boxturtle eggs hatch in June.

Ducks and geese molt in late June and July and are flightless for a couple weeks.

Habitat Management

Finish planting native warm-season grasses and associated forbs.

- plantings through mid-June will do fine with adequate rainfall later in the month
- existing sod should be killed before planting.
- use preemergence herbicide (imazapic) when planting bluestems and indiangrass
- plant seed **no deeper** than 1/4 inch.
- be patient!
- refer to *Chapter 5* in *Native Warm-Season Grasses: Identification, Establishment, and Management for Wildlife and Forage Production in the Mid-South*, PB1752, for additional information on establishing native grasses and forbs.

Plant firebreaks and other disked strips not left for natural vegetation.

- iron- clay cowpeas, soybeans, grain sorghum, Egyptian wheat, and various millets provide forage and seed for a variety of wildlife species.
- refer to *A Guide to Successful Wildlife Food Plots: Blending Science with Common Sense*, PB 1769, for seeding rates and additional information.

Plant warm-season food plots.

- refer to *A Guide to Successful Wildlife Food Plots: Blending Science with Common Sense*, PB 1769, for planting recommendations.

Burn unharvested wheat fields that have been left standing for doves in late June/early July.

Plant Japanese millet around beaver sloughs and other areas that will be flooded in fall for ducks.

Mow and spray perennial forage food plots for weed control if necessary.

- refer to *A Guide to Successful Wildlife Food Plots: Blending Science with Common Sense*, PB 1769, for specific herbicide and management recommendations.

Do NOT mow old-fields!

- destroys cover for wildlife at a time it is needed most (nesting and raising young).
- stimulates grass and leads to reduced forb cover (which means less food and cover).
- increases thatch at ground level and makes travel through the field much more difficult for wildlife.
- manage old-fields by burning or disking in late March/early April; **do not mow them!!**
- Refer to Chapter 6 in *Native Warm-Season Grasses: Identification, Establishment, and Management for Wildlife and Forage Production in the Mid-South*, PB1752, for additional information on managing early successional areas.

Collect soil test samples from plots to be planted this fall and lime now as needed.

Establish salt/mineral licks for white-tailed deer.

- realize mineral licks have not been found to increase antler size, body weights, or reproduction.
- trace mineral salt licks may increase visitation to sites that will be used later for infrared-triggered camera surveys.

Spray woody competitors in native grasses and old-field habitat.

- multiflora rose, privet, sericea lespedeza, sweetgum, elms, etc.
- Roundup[®], Garlon[®], Arsenal[®], Cimarron[®], and PastureGard[®] are good herbicide options.

Construction/repair dikes and water-control structures for flooding fields/woodlands for waterfowl this fall/winter.

Wildlife Damage/Population Management

Leave young wildlife alone.

- let nature takes it's course; you'll do more harm than good by trying to save "orphans".

Do not allow pet cats outside; report all feral cats to the animal shelter for immediate removal.

- putting a bell around a cat's neck does not keep it from killing birds and young rabbits and squirrels.
- house cats are not natural predators as they are not native to North America.

Put up chicken-wire fence at least 6 inches below ground and 2 feet above ground around vegetable gardens to repel rabbits.

Put up a 2- or 3- strand electric fence (one strand 6 inches above ground and the other 6 inches higher) to keep groundhogs and raccoons out of vegetable gardens.

To repel deer from vegetable gardens, erect a single-strand electric fence (2 ½ feet above ground) with aluminum tabs attached every 3-5 feet. Smear peanut butter on the aluminum tabs. Deer are attracted to the peanut butter; however, when they touch the aluminum tabs with their mouths, they learn to stay away.

Plant "alternative: forages (such as iron-clay cowpeas, buckwheat, and clovers) for wildlife on the outside of fencing around a garden to satiate the appetite of deer, groundhogs, and rabbits, further helping to keep them out of the garden.

Repel snakes by cleaning up around the house - mow more often, remove piles of wood, brush, and trash. There is no reliable "repellent" for snakes; only "snake-oil".

The best way to get rid of moles is by trapping, but you have to set the traps ***correctly!***

Keep crawl spaces and other entrances to houses and building closed to prevent young skunks from entering. Refer to *Managing Nuisance Animals and Associated Damage Around the Home*, PB 1624, for additional information on wildlife damage management.

Hardwood Analysis and Trends (HAT) – May 2010

David Mercker, Extension Specialist, Forester

Hardwood lumber pricing continues to make a surprising recovery from the recession of 2009. The log and lumber pipeline has dried, a result of landowners not selling, loggers not logging (due to credit woes and wet weather), and mills either curtailing or ceasing lumber production. So even though new housing starts are at historical lows - normally a factor that would put downward pressure on lumber prices – lumber prices are rising. It's supply-side economics.

The Executive Director National Hardwood Lumber Association recently outlined the following:

1. "The recession is over. Gross National product is increasing and the economy will start getting better.
2. Lumber production is approximately half the amount of just a few years ago. As such, hardwood lumber supplies are too low for demand causing spikes in lumber prices.
3. Don't expect this to change any time soon; with log supplies low and weather bad, there isn't much prospect of logs coming to market.
4. The government is proposing tax breaks for remodeling; and the remodeling business is historically good for wood consumption as consumers upgrade to solid wood.
5. Leading companies are beginning to reinvest in the industry, including new yards, sawmills and personnel." (Barford, M. March 2010)

During the first four months of 2010, **HAT** reports the following changes in species tracked: Black cherry +4.8%, Sugar maple +8.4%, Red oak +14.3%, White oak +19.4%, Yellow poplar +11.9%, Black walnut +22.2%, Ash +11.7%, hickory +2.0% and Soft maple +14.0% (all #1 common 4/4 lumber).

Summarized with permission of the Hardwood Market Report, Memphis, TN.

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